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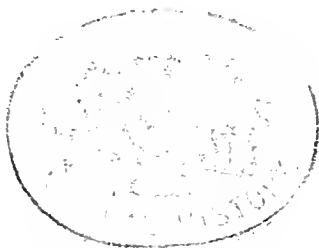
Yorkshire Philosophical Society.

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ANNUAL REPORT

FOR

MDCCCLXXXIV.







ANNUAL REPORT  
OF THE COUNCIL  
OF THE  
YORKSHIRE  
PHILOSOPHICAL SOCIETY

FOR

MDCCCLXXXIV.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY 3RD, 1885.



YORK:  
J. SOTHERAN, BOOKSELLER, CONEY STREET.

1885.



TRUSTEES  
OF  
THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

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TEMPEST ANDERSON, M.D.  
EDWIN GRAY.  
WILLIAM LAWTON.  
F. L. MAWDESLEY.  
T. S. NOBLE.  
S. W. NORTH.  
REV. CANON RAINE, D.C.L.  
WILLIAM WALKER.

PATRONESSES

OF THE

**Dorsetshire Philosophical Society.**

HER MAJESTY THE QUEEN.

H. R. H. THE PRINCESS OF WALES.

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PATRONS.

H. R. H. THE PRINCE OF WALES, K.G.

H. R. H. THE DUKE OF CONNAUGHT, K.G.

HIS GRACE THE ARCHBISHOP OF YORK, F.R.S.

# OFFICERS OF THE SOCIETY, 1885.

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## PRESIDENT :

HIS GRACE THE ARCHBISHOP OF YORK, F.R.S.

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## VICE-PRESIDENTS :

THE RIGHT HON. LORD LONDESBOROUGH.

THE HON. PAYAN DAWNAY.

THE VERY REV. THE DEAN OF YORK.

WILLIAM HENRY RUDSTON READ, M.A., F.L.S.

THE REV. CANON RAINE, M.A.

WILLIAM REED, F.G.S.

JOHN FRANCIS WALKER, M.A., F.L.S., F.G.S., F.C.S., &c.

WILLIAM WALKER, F.G.S.

S. W. NORTH, F.G.S.

WILLIAM MATTERSON, M.D.

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## HON. TREASURER :

EDWIN GRAY, LL.M.

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## COUNCIL :

*Elected 1883.* TEMPEST ANDERSON, M.D.

THOMAS GOUGH, B.Sc.

*Elected 1884.* JOHN TEASDALE, M.A.

WILLIAM ATKINSON.

JOHN WADDINGTON MANN.

WILLIAM LAWTON.

*Elected 1885.* THE TOWN CLERK.

GEORGE OLDFIELD.

RICHARD PEARSON.

HENRY COWLING.

*Elected for* { REV. H. L. CLARKE, M.A.

*One Year.* { JAMES EDMUND CLARK, B.A., B.Sc.

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## HON. SECRETARY :

T. S. NOBLE, F.G.S.

## CURATORS:

GEOLOGY . . . . .	W. REED, F.G.S.
MINERALOGY . . . . .	W. H. HUDLESTON, M.A., F.G.S.
INSECTS AND CRUSTACEA . .	REV. W. C. HEY, M.A.
COMPARATIVE ANATOMY . .	T. ANDERSON, M.D.
BRITISH ORNITHOLOGY . .	W. H. RUDSTON READ, M.A., F.L.S.
ANTIQUARIAN DEPARTMENT .	{ REV. W. GREENWELL, D.C.L., F.R.S. REV. CANON RAINE, D.C.L.
LIBRARY . . . . .	T. GOUGH, B.Sc.
BOTANY . . . . .	WILLIAM MATTERSON, M.D.
CONCHOLOGY . . . . .	REV. W. C. HEY, M.A.
OBSERVATORY & METEOROLOGY	T. S. NOBLE, F.G.S.

## KEEPER OF THE MUSEUM:

HENRY MAURICE PLATNAUER, A.R.S.M., M.M.S.

REPORT OF THE COUNCIL  
OF THE  
YORKSHIRE PHILOSOPHICAL SOCIETY,  
FEBRUARY 3RD, 1885.

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During a year of continued agricultural and commercial depression the Council are able to present their Report to the Members for the year 1884 under circumstances which they cannot but consider highly favourable.

At the last Annual Meeting of the Society a scheme was approved for the purpose of consolidating the debt of the Society and to pay off the principal and interest by yearly instalments within a limited time. This arrangement has been effected.

The total debt of the Society is £3,500, £1,900 of which was, until the recent arrangement due to the Insurance Company, on Mortgage at 4 per cent. interest. A further sum of £1,600 was due to the Treasurer, for which the Bank charged interest at the rate of 5 per cent. The total payment for interest for the year 1883 was £160 4s. 10d. The future yearly payment to be made, both in respect of principal and interest, will amount in the whole to £201 8s. 0d., being £41 3s. 2d. only in excess of what was paid in the previous year for interest alone, but in the larger payment principal and interest are being gradually paid off and after a lapse of 30 years the debt will be entirely extinguished.

The income of the Society is for the past year about the average, and the balance sheet will shew that a sum of £54 16s. 2d., being an excess of expenditure over income, is due to the Treasurer, but when it is considered that the cost of laying out the additional new ground contiguous to St. Mary's Lodge has amounted to upwards of £80, and the cost of repairs of the Lodge, now occupied by Mr. Mann, at a rent of £50,

has cost a further sum of £80, it will at once be seen that but for this extraordinary expenditure a large balance would have been in the hands of the Treasurer for the purpose of the Society.

GEOLOGY.—The additions to the Geological Department include donations from the following Gentlemen:—W. Reed, Esq., F.G.S.; J. F. Walker, Esq., M.A.; Thomas Boynton, Esq.; The Rev. C. B. Norcliffe; Canon Raine, D.C.L., and S. Chadwick, Esq.

The work of the year has been mainly the formation of a secondary collection. The reasons for forming the collection are as follows:—The great and increasing importance attached to the teaching of Science will not only cause a large number of students to turn their attention to Palæontology, but will necessitate their having a deeper knowledge of the subject than they can possibly get by simply looking at specimens through the glass covers of cases; but at the same time the Honorary Curator feels that it would be inconsistent with his duty as custodian of the specimens in the Geological Department to allow young and inexperienced students free access to the collection, especially as very many of the specimens are not only excellent of their kind, but could not possibly be replaced if destroyed. To meet this difficulty, it has been resolved to make a secondary collection from the duplicate fossils; they will be fully and carefully labelled and arranged stratigraphically in a cabinet (presented some little time back by the Honorary Curator) and in this form will be found very useful to anyone desirous of having something more than a superficial knowledge of Palæontology. It has been felt most desirable that, where possible, the collections of this Museum should be made available, not simply for the specialist and collector, but for giving a practical groundwork to the ordinary student. As to the secondary collection itself, the Honorary Curator wishes it to be distinctly understood that it is not composed of specimens that are considered unfit for exhibition in the general collection; on the contrary, no specimen is admitted into it which is so imperfect as to be useless or misleading; they are



all good and sound specimens which are not in the cases simply because they are already adequately represented. In fact, this collection may be fairly spoken of as a representative and typical series of Tertiary and Secondary remains; it will necessarily be somewhat deficient in Palæozoic Fossils. Up to the present the Tertiary and Cretaceous remains are arranged and labelled and the greater part of the Jurassic is also ready.

In addition to the above, many of the Liassic and Rhoetic specimens have been remounted and labelled, a number of Eifelian (Devonian) specimens presented by J. F. Walker, Esq., M.A., have been named and inserted into the collection; an excellent series of Brachiopods of the same age collected and named by that gentleman having also been added; a valuable series of fossil fruits from the London Clay of Sheppey (presented by the Honorary Curator) has been put under glycerine in glass cells, and a number of Cretaceous and Jurassic fossils has been introduced. A collection of early historic mammalian remains intended to bridge over the gap between the Fen and Pleistocene periods and modern times has been commenced with a number of remains of Roman and Danish age, for which we are chiefly indebted to the energy of our Honorary Curator of Antiquities, Canon Raine.

In addition to the donations referred to further on, the collection has been increased by some fossils and rock specimens collected by the Keeper chiefly from Gilling, Peak, Hayburn, Amotherby, Langton, Ayton, Appleton, and Hutton.

DEPARTMENT OF ANTIQUITIES.—The past year has not been a very eventful one in the Antiquarian Department. One Roman inscription has been added to the collection, an Altar dedicated to Silvanus by L. Celernius Vitalis, a cornet of the ninth Spanish Legion. This inscription possesses some features of considerable interest. Two small collections of Roman urns have also been acquired, one consisting of a selection of the Pottery collected by Mr. R. Smith when the New Railway Station was built; the other, a set of vessels of remarkable interest and beauty discovered on the Mount in 1863 with the sepulchral memorial of Corellia Optata, which is already in our

Museum. By such purchases and gifts the collection of Roman Antiquities in the York Museum, which has been for a long time unmatched in England, is able to give a better idea of the importance of the capital of Roman Britain to the scholars and antiquaries of other countries.

During the past year many Danish Antiquities in bone, glass, jet and amber, have been brought to the Museum together with a quantity of fragments of horns of the red deer and reindeer of a very large size. These remains illustrate the history of York during the two centuries which precede the Norman Conquest, when the City was under the rule of a series of Danish Princes subordinated to the rulers of the Heptarchy.

The Curator may mention that during the past few weeks some excavations at the Blind School have revealed the foundations of the walls on the south side of the Choir of St. Mary's Abbey, and there is every reason to believe that, as the work advances, fresh discoveries of a novel and remarkable character may be made.

MINERALOGY.—The arrangement and re-labelling of the rest of the minerals has been completed; so that now all the Calcium, Strontium, Barium, and Magnesium minerals, together with the remainder of the Aluminium minerals, the compounds of the heavy Metals, the Hydrocarbons, &c., have been carefully gone through. Specific labels have been introduced in addition to the labels attached to individual specimens. The large specimens have been removed from the upper part of the case and placed in a glazed box beneath.

A kind of exchange has been made with the British Museum, whereby in consideration of our giving two crystals of *Hæmatite* (Scalenohedra capped with rhombohedron) we have received nearly 60 specimens, the new species being *Stephanite*, *Pyrosmalite*, *Gigantolite*, and *Fahlunite*, &c., together with several pseudomorphs. Mr. J. F. Walker has also presented the Society with some specimens of South African *Catseye*, *Häuyne*, *Zircon*, *Euxenite*, &c.

In consequence of the weeding out of some inferior specimens,

and the substitution of others, the collection, as exhibited in the cases, is in very good order. At the same time more space for exhibition is urgently needed; the metallic minerals especially being very cramped. Some minor alterations in the present arrangement are under consideration.

CONCHOLOGICAL DEPARTMENT.—Some progress has been made in arranging the general collection in the cabinet presented last year by Mr. Reed, for that purpose. A few new species have been added by gift or exchange, the most interesting being *Pectunculus pilosus*, and some shells from the Sandwich Islands.

ENTOMOLOGICAL DEPARTMENT.—The collections are in good order, but have not received any additions during the past year except a small series of Foreign Diptera, presented by the Rev. F. O. Morris.

COMPARATIVE ANATOMY.—The Curator has to report that the collection under his care is in good order; a large number of the specimens has been re-labelled, the old labels being either unsightly or insufficient. The only additions made during the past year are some Chelonian bones.

The collection, though containing many valuable and rare specimens, is still deficient in skulls of many of the more common animals. Mr. Platnauer will be glad if anyone willing to co-operate in this will communicate with him.

DEPARTMENT OF ORNITHOLOGY.—The only addition made during the past year to the Department of Ornithology is Miss Barstow's donation of two eggs of the Emu (*Dromæus Novæ Hollandæ*.)

A few of the birds in the Strickland Collection have been re-mounted, and two specimens of *Apteryx australis* (the New Zealand *Kiwi*), presented last year by the Rev. C. Meysey Thompson, have been mounted and placed in the collection.

LIBRARY.—The Curator of the Library reports that during the year additions have taken place in the form of the numerous

scientific periodicals and publications subscribed for by the Society, and of the transactions of various learned societies which in most cases are presented to the Library.

Several valuable works have also been added to the reference Library of the Geological department.

In accordance with a resolution of the Council an attempt is being made to induce the Government to grant copies of the memoirs and other publications of the Geological Survey of the United Kingdom.

OBITUARY.—The Society has this year lost one of its honorary members, Dr. Augustus Vœlcker, F.R.S., who died on the 5th of December.

This eminent chemist was born at Frankfort-on-the-Maine in 1823, and educated at Göttingen. In 1849 he was appointed assistant to Professor Johnston at Edinburgh, and in 1852 professor of chemistry at the Royal Agricultural College, Cirencester.

This post he resigned in 1862 for the professorship of chemistry offered to him by the Royal Agricultural Society of England.

Dr. Vœlcker's name is well known to practical agriculturalists as well as to scientific men; a great advance in the science of agricultural chemistry has been made by his solid, useful and unostentatious work, the nature and value of which may be judged from his numerous papers in the Journal of the Royal Agricultural Society, Journal of the Chemical Society, &c. The immense importance of the application of chemistry to the cultivation of the soil need not here be dwelt upon. The words of Dean Swift may be well applied to Dr. Vœlcker "that whoever could make two ears of corn, or two blades of grass, to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country than the whole race of politicians put together."

The Society has also to mourn the loss of the Rev. M. R. Breshner, for upwards of 25 years the respected Vicar of St. Martin's, Coney street, in this city. Mr. Breshner was a

member of the Council at the time of his death, and on previous occasions has rendered services to the Society. Mr. Bresher was a member of the University of Cambridge, where he graduated in honours in the year 1850, shortly after which date he settled in York, and for some years was Vice-Principal of the Training College, whence he was promoted by the Dean and Chapter of York to the Preferment which he held at the time of his death. Mr. Bresher always took a lively interest in the welfare of the Society, and died universally respected.

The Council proposes for election as new members of Council, in room of the four who retire by rotation, the following members of the Society : The Town Clerk, Mr. George Oldfield, Mr. Richard Pearson, and Mr. Henry Cowling ; and the Rev. H. Lowther Clarke and Mr. Clark of the Friends' School, Bootham, for one year in the room of the Rev. Mr. Bresher, deceased, and the Rev. T. B. B. Ferris, who has left York.

The two latter will be re-eligible for election next year.

## METEOROLOGY.

In its long duration of genial weather, the past year has not been equalled since 1871 ; nevertheless, the total amount of bright sunshine has been less than in 1883, as will be seen by the percentages given upon the table.

The distribution of sunshine is clearly of more importance than the total, whilst our records fail, of course, to give any sign of the enormous volume of the sun's heat imported by the moist south-west winds.

We may note that the bright sunshine in the Channel Islands was half as much again as with us ; in North Ireland, one-sixth less.

RAIN fell on 166 days, against 212 days in 1883, the total being under 20 inches as compared with over 33 inches. Nearly one-sixth of the fall took place upon four days in July ; apart from this, the aggregate for the last eight months was barely eight inches. October, the wettest month, had a rainfall of only three-quarters of an inch.

The BAROMETER has had a very great range, the extreme,

being from 30·719 on October 5th and 30·607 on January 16th, to 28·226 on January 26th. The latter was the date of the lowest recorded fall in our Islands, 27·26 on the central track of the depression just south of the Grampians. This was the only week of serious storms during the year; but, on the other hand, there were only four records of "calm."

The THERMOMETER has varied from 86·4° on August 11th to 21° November 30th. The coldest in the early months was 26·6° on April 24th; in January the thermometer did not fall below 31°.

AURORAS have been few and not specially brilliant.

The remarkable SUN-GLOWS have appeared and reappeared throughout the year, although with lessening splendour after sunset and before sunrise. The "corona" seen during the day, silvery-white near the sun to various shades of rose and salmon further, has been much more persistent, having been visible on all favourable occasions. Possibly connected with this was a remarkable iridescent fringe of colours, such as are caused by diffraction, stretching along the upper edge of a haze-cloud situated 15° to 20° above the horizon from S.S.W. to N.W., lasting from before to long after sunset on December 13th. The phenomenon has been reported in "Nature" from many parts of North Britain and from Denmark on various dates during the same week. Here it was observed also on the 11th.

In connexion with these phenomena and their possible source in the Krakatoa outburst, an eruption unparalleled within memory of man, it is worth recording that here, as the world over, astronomers have been troubled with unusually poor definition, more especially affecting day observations of the stars.

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## HEIGHT OF THE RIVER OUSE DURING 1884.

January..	..	..	Various heights from Summer Level to 12ft. 5in. on the 24th.
February	..	..	Various heights from S. L. to 11ft. 6in. on the 2nd.
March	..	..	From the 1st to 19th various from 9in. to 9ft. 8in. on the 6th, remainder S. L.

April	..	..	..	Principally S. L., highest 2ft. 4in. on the 3rd.
May	..	..	..	S. L. 19 days, highest 2ft. on the 2nd.
June	..	..	..	S. L. during the whole month.
July	..	..	..	Various from S. L. to 4ft. 6in. on the 11th.
August	..	..	..	S. L. during the whole month.
September	..	..	..	22 days S. L., highest 1ft. 3in. on the 30th.
October	..	..	..	Principally S. L., highest 1ft. 6in. on the 27th and 29th, 3ft. on the 31st.
November	..	..	..	Various from S. L., 2ft. 2in. on the 5th and 7th.
December	..	..	..	Various from 3in. to 9ft. 2in. on the 11th.

### HEIGHTS DURING JANUARY, FEBRUARY AND DECEMBER, 1884.

ft. inches.				ft. inches.			
Jan. 2nd	..	..	S. L.	Feb. 13th	..	..	3 0
„ 3rd	..	..	1 2	„ 14th	..	..	3 3
„ 4th	..	..	5 6	„ 15th	..	..	3 0
„ 5th	..	..	9 3	„ 16th	..	..	1 6
„ 6th	..	..	9 10	Dec. 1st	..	..	0 4
„ 7th	..	..	7 2	„ 2nd	..	..	0 3
„ 8th	..	..	3 4	„ 3rd	..	..	0 4
„ 9th	..	..	2 2	„ 4th	..	..	2 9
„ 10th	..	..	1 7	„ 5th	..	..	2 6
„ 11th	..	..	2 6	„ 6th	..	..	2 0
„ 12th	..	..	2 0	„ 7th	..	..	2 4
„ 13th	..	..	0 6	„ 8th	..	..	8 3
„ 14th	..	..	1 4	„ 9th	..	..	5 6
„ 15th	..	..	1 2	„ 10th	..	..	1 4
„ 16th to 22nd	..	..	S. L.	„ 11th	..	..	9 2
„ 23rd	..	..	10 0	„ 12th	..	..	7 3
„ 24th	..	..	12 5	„ 13th	..	..	3 6
„ 25th	..	..	9 10	„ 14th	..	..	4 2
„ 26th	..	..	8 0	„ 15th	..	..	4 10
„ 27th	..	..	8 3	„ 16th	..	..	3 6
„ 28th	..	..	5 7	„ 17th	..	..	4 9
„ 29th	..	..	2 6	„ 18th	..	..	3 4
„ 30th	..	..	8 10	„ 19th	..	..	4 6
„ 31st	..	..	9 2	„ 20th	..	..	4 3
Feb. 1st	..	..	9 6	„ 21st	..	..	3 2
„ 2nd	..	..	11 6	„ 22nd	..	..	1 6
„ 3rd	..	..	9 6	„ 23rd	..	..	0 6
„ 4th	..	..	7 0	„ 24th	..	..	1 4
„ 5th	..	..	5 0	„ 25th	..	..	1 3
„ 6th	..	..	3 0	„ 26th	..	..	1 2
„ 7th	..	..	2 0	„ 27th	..	..	0 9
„ 8th	..	..	1 2	„ 28th	..	..	1 0
„ 9th	..	..	1 6	„ 29th	..	..	0 9
„ 10th	..	..	3 0	„ 30th	..	..	0 9
„ 11th	..	..	2 0	„ 31st	..	..	0 6
„ 12th	..	..	2 0				

The River Ouse was at or below Summer Level on 200 days during the year.



METEOROLOGICAL REGISTER, YORK, 1884.

Based on observations taken at the Museum at York at 9 a.m. and 9 p.m. each day, local time. The self-registering instruments were read at 9 p.m., and the readings entered to the day on which they were made, while the Rainfall was measured at 9 a.m., and the amount registered entered to the *preceding* day.

SUNSHINE RETURNS.										RAINFALL AT YORK, 1884.										THERMOMETER.										RAIN.		BAROMETER.															
Percentage, 1883.		Percentage, 1884.		Total hours.		Wks. included in each month.		Cherry Hill, York.		At Ilkley.		Days on which .01 or more fell		Greatest Fall in 24 hours.		Depth.		Date.		Total Depth.		Average Maximum.		Average Minimum.		Mean Temp.		Highest.		Lowest.		Inches.		Days.		Mean.		Lowest.		Highest.		Month.					
1883.		1884.		Total hours.		Wks. included in each month.		Cherry Hill, York.		At Ilkley.		Days on which .01 or more fell		Greatest Fall in 24 hours.		Depth.		Date.		Total Depth.		Average Maximum.		Average Minimum.		Mean Temp.		Highest.		Lowest.		Inches.		Days.		Mean.		Lowest.		Highest.		Month.					
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NOTE.—The Barometer readings have been corrected and reduced to 32° F. at the Mean Sea Level.



## STATION, YORK, 1884.

WIND SUMMARY.—NUMBER OF OBSERVATIONS UNDER EACH POINT.																		
MONTHS.	NORTH	N.N.E.	N.E.	E.N.E.	EAST	E.S.E.	S.E.	S.S.E.	SOUTH	S.S.W.	S.W.	W.S.W.	WEST	W.N.W.	N.W.	N.N.W.	Calm.	Variable.
January ..	0	0	0	1	1	1	1	2	10	3	6	4	24	6	2	0	1	
February ..	2	1	0	1	12	3	1	3	16	3	4	3	2	2	3	2	0	
March ..	1	3	2	4	7	1	1	8	15	3	5	1	3	2	2	4	0	
April ..	7	6	1	12	12	5	2	0	7	0	2	0	0	1	2	2	1	
May ..	2	2	7	3	5	1	0	1	7	4	6	8	10	2	1	3	0	
June ..	10	3	5	0	8	2	0	2	6	1	1	1	6	1	5	9	0	
July ..	4	2	1	1	3	7	1	2	10	9	7	3	6	3	1	2	0	
August ..	2	1	1	1	5	1	2	3	13	3	3	5	14	1	3	3	1	
September ..	7	0	1	6	3	3	0	0	10	4	5	1	14	1	2	2	1	
October ..	3	0	1	2	1	0	3	3	5	1	5	2	19	4	3	10	0	
November ..	9	0	2	0	3	3	2	4	9	1	5	1	9	3	3	6	0	
December ..	11	2	0	2	5	0	3	2	6	5	6	5	12	1	2	0	0	
Sums ..	51	20	21	33	65	27	16	30	114	37	55	34	119	27	29	43	4	

The following Evening Lectures have been delivered in the Theatre of the Museum :—

“A walk on the Yorkshire Coast,” by the Rev. W. C. Hey, M.A.  
On “Myths and Traditions,” by the Rev. Sir George William Cox, Bart, M.A.

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The following papers were read :—

On “Waldheimia Bernadina,” by J. F. Walker, M.A., F.G.S.  
On “Trilobites,” by H. M. Platnauer, A.R.S.M.

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### NEW MEMBERS, 1884.

William Cattle Warwick, *Malton*.  
Henry Johnson, *Marygate*.  
William Legat, *Clifton*.  
J. E. Clark, 20, *Bootham*.  
Lord Ralph Kerr, *Castlegate House*.  
R. Marchant, *Petergate*.  
Thomas Glaisby Mann, *St. Mary's Lodge*.  
William Paver, 50, *East Mount Road*.  
F. B. Norcliffe, *Langton Hall*.  
Mrs. Holmes, 12, *Grosvenor Terrace*.  
George Gibb, *Chesnut Grove, Heworth*.  
R. H. Bower, *Clifton House*.  
William Hopkinson, 4, *St. Mary's*.  
Edward William Purnell, 39, *Coney Street*.  
Mrs. Peckitt, *Carlton Husthwaite, Thirsk*.  
Alfred Proctor, *The Mount*.  
Bowden Cattley, *Bootham*.  
Edward J. Matthew, 2, *Marlborough Grove*.  
William Bellerby, 8, *Burton Lane*.

### LADY SUBSCRIBERS.

Mrs. Beaumont, 6, *Blake Street*.  
Mrs. Mawson, 19, *Grosvenor Terrace*.  
Mrs. Mary Buchanan, 16, *Bootham Terrace*.

FOR THE YEAR 1884.

<b>Dr.</b>	<b>INCOME.</b>					
	<b>£. s. d.</b>			<b>£. s. d.</b>		
<i>Subscriptions :</i>						
Members .....	628	0	0			
County Members .....	29	0	0			
Lady Subscribers .....	60	0	0			
Associates.....	15	0	0			
Arrears .....	10	0	0			
<i>Admission Fees :</i>						
Paid in Full.....	18	0	0			
Paid Instalments .....	22	0	0			
<i>Composition in lieu of future Subscription—</i>						
Capt. R. W. Richardson	20	0	0			
Keys of Gates .....	58	5	0			
				860	5	0
<i>Rents :</i>						
T. G. Mann, Esq. (half year).....	25	0	0			
Mr. Sykes, Bootham and Marygate Towers ....	24	0	0			
Mr. Burton, Baths ....	40	0	0			
Boating Club .....	5	0	0			
Fine Art Society .....	2	0	0			
Water Works .....	0	1	0			
				96	1	0
Hire of Tent .....				11	8	8
Meteorological Department .....				15	12	0
Whitsuntide Admission Fees after deducting Expenses..				4	2	0
Gate Money.....				317	16	0
Catalogues and Photographs .....				15	7	6
				£1320	12	2
<b>Excess of Expenditure over Income .....</b>				54	16	2
				1375	8	4
<b>Balance due to the Treasurer, 31st Dec., 1883 .....</b>				1562	6	4
<b>Excess of Expenditure over Income, 1884 .....</b>				54	16	2
				£1617	2	6
<b>Less payment to Treasurer (part of Loan), as below.....</b>				1600	0	0
				£17	2	6

EXPENDITURE.		Cr.
	£. s. d.	£. s. d.
Crown Rent .....	1 0 0	
Corporation Rents .....	19 11 8	
Rates and Taxes.....	23 0 4	
Insurance .....	6 2 0	
<i>Salaries and Wages:</i>		
Mr. Platnauer .....	200 0 0	
Mr. Guy .....	25 0 0	
Mr. Fielden .....	60 0 0	
Miss Baines .....	39 0 0	
John Davison (Pension) .....	26 0 0	
Attendants, Museum and Hospitium .....	101 14 0	
Gardeners, including night duty and extra labour.....	163 18 6	
	—————	615 12 6
Interest to Insurance Company to date of new Loan, less Tax.....	59 4 7	
Interest to Bankers .....	67 15 11	
	—————	127 0 6
<i>General Repairs and Expenses, &amp;c.</i>		
Museum and Hospitium..	95 4 8	
Estate .....	17 8 9	
Costs of obtaining Grant from the Crown and Lease to the Fine Art Committee (repayable by the Fine Art Committee)....	47 6 2	
Alterations in Drain and Repairs at St. Mary's Lodge, Mr. Biscoomb, as per estimate .....	26 7 7	
Do., do., Mr. Prudames	28 6 0	
Allowed Mr. T. G. Mann (one-half of £50) as arranged for expenses of internal repairs and painting. &c., St. Mary's Lodge .....	25 0 0	
	—————	239 13 2
<i>Gardens:</i>		
General Expenses, Repairs and Additions, including the cost of laying out and constructing the newly-added portion of the Garden Ground .....	105 2 11	
Coke, Tar, &c.....	13 12 10	
Library: Books, Binding, &c. ....	37 13 8	
<i>Miscellaneous:</i>		
Printing and Stationery .....	14 4 9	
Printing Reports .....	12 5 0	
Do. Communications to Members and postages .....	12 12 1	
	—————	24 17 1
Coals, Gas, &c. ....	34 1 5	
Military Bands .....	15 5 9	
Purchases of Antiquities.....	55 4 6	
Carriage of Tent and Attendant fixing and removing when on hire .....	8 4 0	
Meteorology (see contra). ....	15 12 0	
Lectures .....	8 2 4	
Sundries .....	11 6 11	
	—————	1375 8 4
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Balance due to the Treasurer 31st December, 1884 .....	17 2 6	
	—————	£17 2 6

LOAN ACCOUNT.

Amount of Loan by Yorkshire Insurance Company (Principal and Interest at the rate of £4 percent., to be repaid in 30 years by 60 half-yearly payments of £100 14s. each)	3500	0	0
	<u>£3500</u>	<u>0</u>	<u>0</u>

Paid Yorkshire Insurance Com- pany's Mortgage .....	1900	0	0
Do. to Treasurer as above in reduc- tion of debt due to him.....	1600	0	0
	<hr/>	<hr/>	<hr/>
	£3500	0	0
	<hr/>	<hr/>	<hr/>

Audited and found correct,

## RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEBRUARY 3rd, 1885.

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1. That the Report of the Council now read be adopted and printed for circulation amongst the Members, Lady Subscribers, and Associates.
2. That the thanks of the Society be given to the Members of the Council retiring from office, also to the Treasurer, Secretary, and Curators, for their valuable services; and that authority be given to the Council to give admission to the public to the Museum on Whit-Monday and Tuesday, under the same regulations as last year.
3. That the thanks of the Meeting be given to the Chairman.

## DONATIONS TO THE MUSEUM AND LIBRARY.

## LIBRARY.

BOOKS PRESENTED.	DONORS.
The Journal of the Chemical Society, vols. xlv., xlvi. ....	The Society.
The Journal of the Linnean Society, Botany, vol. xxi., Nos. 132-3-4-5 ; Zoology, vols. xvii., xviii., Nos. 104-5-6	W. R. Rudston Read, Esq., M.A.
The Records of the Geological Survey of India, vol. xvi., part 4 ; vol. xvii., parts 1, 2, 3 ; and Memoirs, "Palæontologia Indica," series x., vol. ii, part 6 ; series x., vol. iii., parts 1, 2, 3, 4, 5 ; and series xiv., vol. i., Nos. 2, 3 ; vol. xx., parts 1, 2 .....	The Indian Govern- ment
The Quarterly and Monthly Weather Reports for 1884 .....	The Meteorological Council.
Atti della R. Accademia Dei Lincei for 1884.....	The Accademy.
The Gault, by H. G. Hilton Price, Esq., F.G.S.....	The Author.
The Catalogue of the Fossil Sponges in the Geological Department of the British Museum, by Geo. Jennings Hinde, Ph.D., F.G.S. ....	The Trustees, British Museum.
Catalogue of Early English Books to 1640, vol. i., ii., iii., and Catalogue of Greek Coins .....	
The Report of the Kelvingrove Museum, Glasgow, 1883 ....	The Trustees.
Final Report of the Anthropometric Com- mittee, 1882-3 .....	The Committee.
The Report of the Norwegian North- Atlantic Expedition, 3 parts .....	The Norwegian Government.
Extrait du Bulletin du Musée royal de Belgique, by M. L. Dollo, 2 parts ..	The Author.

BOOKS PRESENTED.	DONORS.
A Centenary of Science in Manchester, by R. Angus Smith, and the Memoirs of the Manchester Literary and Philosophical Society, 4 vols. ....	The Society.
The Antiquity of Man, by Sir Richard Owen, K.C.B. ....	The Author.
The Proceedings of the Geologists' Association, vol. viii., Nos. 4, 5, 6, 7, and Annual Report for 1883 ....	The Association.
The Second Annual Report of the United States Geological Survey, 1880-1, and the Third Report of the United States Entomological Commission ....	The United States Government.
The Report of the Smithsonian Institute for 1882 ....	The Institution.
A Display of Heraldry, by John Guillim	Ben. Burnell, Esq, New Street.
An Old Log captured by one of H.M. Ships	The Rev. F. O. Morris.
The Transactions and Proceedings of the Royal Society of Edinburgh, 5 parts..	The Society.
The Proceedings of the Royal Society of Great Britain, vol. x., part 2 ....	The Society.
The Journal of the Northamptonshire Natural History Society ....	The Society.
The Chalk, its distribution and subdivisions, by Prof. John Morris, M.A.	The Author.
Report of the Visit of the London and Middlesex Archæological Society to Rochester and Strood, by C. Roach Smith, Esq., F.S.A. ....	The Author.
The Address of John Evans, D.C.L., LL.D. to the Royal Society.....	The Author.
The Northumberland, Durham, and Newcastle-upon-Tyne Natural History Transactions, vol. viii., part 1.....	The Tyneside Naturalists' Field Club.
Some Remarks on a Boring for Water at Birdlip, the Thickness of the Lower Lias at Gloucester and the neighbourhood; also the Terrace Gravels of Auchnasheen, Ross-shire, by W. C. Lucy, Esq., F.G.S. ....	The Author.

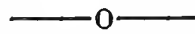
## BOOKS PRESENTED.

## DONORS.

Report of the Town Museum and Leicester Literary and Philosophical Society ..	} The Society.
The Annual Report of the Hull Literary and Philosophical Society .....	
The Science Monthly Illustrated for 1884	David Bogue, Esq.

## BOOKS PURCHASED.

Structural and Systematic Conchology, Tryon, 1 vol.  
 Scenery Science and Art, Ansted, 1 vol.  
 Geology, Ansted, 2 vols.  
 Year Book of Scientific Societies.  
 Library Catalogue of the Museum of Geology, Jermyn Street.  
 Cours de Mineralogie.  
 Barrois on the Chalk of England and Ireland.  
 Scrope, Volcanoes of Central France.  
 Trilobites, Alexandre Brongniart.  
 Geology of Victoria, McCoy Decades, I., II.



## MUSEUM.

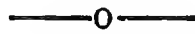
## GEOLOGICAL DEPARTMENT.

## DONORS.

A series of Brachiopoda from the Rhoetic of Germany .....	} J. F. Walker, Esq., M.A., F.G.S., &c.
A series of Brachiopoda, Corals, Trilo- bites, &c., from the Devonian of Eifel, Germany .....	
Fossils from the Chalk of Thixendale, Yorkshire .....	
A series of Brachiopoda from the Lower Lias of Salzburg, Austria .....	
A fine Slab, containing Liasic Fossils, from the drift at Holgate, York.....	} Wm. Reed, Esq., F.G.S.
A series of Fossils from the Purbeck Beds, Swanage .....	
Rock specimens and Fossils from the drift at the Railway Cutting, Holgate	
Some Fossils from the Yorkshire Chalk including a fine slab of Sea Urchins..	} S. Chadwick, Esq., Malton.

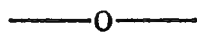
## DONORS.

A series of Rock Specimens from the deep boring at Strensall .....	{	The Officers, Royal Engineers.
The Vertebra of a Whale (Pleistocene) ..		
Fossils from the Drift, Holgate .....	{	C. B. Norcliffe, Esq., M.A., Langton Hall.
	{	The Rev. Canon Raine, M.A., D.C.L.



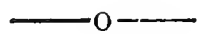
## MINERALOGY.

Three Volcanic Bombs from Eifel, Germany .....	{	J. F. Walker, Esq., M.A., F.G.S.
Specimens of Häüyn, Zircon, Cats Eye, Rubelan, Lava with enclosures, and Euxenite .....		
Specimens of Anhydrite, Mispickel, and a few other Minerals .....		
Specimen of Amber from Skipsea .....		
A series of Minerals .....	{	Wm. Reed, Esq., F.G.S.
	{	Thos. Boynton, Esq., Ulrome.
	{	The British Museum.



## ZOOLOGY AND COMPARATIVE ANATOMY.

Two Eggs of the Emu ( <i>Dromæus Novæ Hollandiæ</i> ) from New Zealand .....	{	Miss Barstow, Garrow Hill.
26 specimens of Foreign Diptera .....		
Rib of the Turtle from Sicily .....	{	The Rev. F. O. Morris.
	{	Hy. Richardson & Co., Cherry Hill
Two recent Shells from the African Coast	{	Rev. W. C. Hey, M.A.



## APPARATUS, ETC.

A Microscope with 4 Object Glasses ....	Wm. Reed, Esq., F.G.S.
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## ANTIQUITIES, 1883.

## DONORS.

A small perforated Stone Axe from Norton-le-Clay .....	Dr. A. H. Leadman, Borobridge.
A large collection of Prehistoric Antiquities from Ireland, Denmark, &c.; numerous specimens of Armour and Weapons, with many other curiosities, collected by the late Mr. G. A. Robinson, of Reeth.....	Mrs. Robinson and Mr. G. Robinson.
An Urn and other curiosities from Egypt	Rev. C. B. Norcliffe, Langton.
A piece of Wood-carving from the Bedern	Mr. Mennell, Builder.
An Ancient Deed relating to property near Grimsby .....	Rev. Canon Bevan, Hay, Brecon.
A Roman Urn found at Clementhorpe	Mr. C. Hornsey.
Gold Coins of the Emperors Valentinian, Valens and Leo, and twelve other coins in silver and copper .....	Mr. H. Barstow, Garrow Hill.
Roman Pottery from the Upchurch Marshes	Mr. C. H. Woodruff.
A fine Etruscan Tomb, purchased at Rome many years ago .....	Mr. W. Atkinson.
Roman and Greek Coins, and Arrow Heads from Egypt .....	Mr. H. Barstow, Garrow Hill.

## 1884.

Thirty-five very fine Flint Arrow Heads from Antrim .....	Mr. T. W. U. Robinson, Houghton-le-Spring.
A Grant of a House in York in 1337 from John de Lascelles, of Escrick, with his seal .....	Mr. H. Cowling.
A Saxon Cross, with interlacing work, from Cheadle, Co Stafford .....	Mrs. Brown, West Bank Terrace.
An old Musket from Sebastopol .....	Miss Kidd, 28, Newbro' Street.
The Silver-mounted Mazer Bowl of the York Innkeepers' Company.....	The Hon. & Rev. Stephen Lawley, Exminster, Exeter.

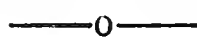
A fine set of Roman Vessels, one of which is of glass, found on The Mount in 1861, with the inscribed monument of Corellia Optata .....	Mr. Alfred Proctor.
A Stone Implement found at Bening- brough .....	The Hon. Payan Dawnay.
A brown English Jug, and three Flint and Stone Weapons found near Bergen	Tempest Anderson, Esq., M.D.
A small 17th century Cup of yellow ware found in High Ousegate .....	Mr. G. Kidd.
A Roman Tile from Chester with the stamp of the 20th Legion.....	Mr. G. J. Shrubsole, Chester.
A Mediæval Spear found at Rainhill, near Thornton-in-Craven, and a modern Amphora from Tunis .....	Mr. E. Hailstone, Walton Hall, Wake- field.
Seven Mediæval Deeds on parchment con- nected with property at Wakefield and Ingerthorpe .....	Mr. John Wright, 56, Stonegate.
The Bones of an Ox found on the Peat at Skipsea Brough, E. R. Y. ....	Mr. Thomas Boynton, Ulrame, Lowthorpe.

*(To be inserted in the Report for 1884.)*

## ANTIQUITIES.

## DONORS.

A Stone Cross from Cheadle, Cheshire ..	} Mrs. Brown, West Bank Terrace.
An Old Musket from Sebastopol.....	
	} Mrs. Kidd, 28, Newbro' Street.



## BOTANY.

Thirty Plants have been presented to the Society by W. H.  
Rudston Read, Esq., namely:—

## STOVE AND GREENHOUSE PLANTS, &amp;c.

## FICUS MINIMA.

Licuala horrida	Justicia purpurea
Asparagus plumosus	Mikania pulverulenta
Sonerilla Margaritacea	Begonia Knowsleyana
Begonia Schmidtii	Eucharis amazonica
Begonia Listeri	Luculia gratissima
Impatiens alba	Coleus "Pompadour"
Coleus "Mrs. Steddall"	Ærides (species)
2 Coleus "Edith Sentance"	Selaginella ascendens
Selaginella divaricata	Onychium japonicum
Nephrodium patens	Borwardia Corymbiflora
Tacsonia Van Volxemii	Humboldtii
Myosotis dissitiflora splendens	Myosotis "Imperative Elizabeth"
Lonicera Caprifolium	Lonicera fragrantissima
Hedera (Var. Emerald Gem)	Pelargonium "Touchstone"
Pellionia pulchra	

Three specimens (*Asplenium flabellifolium*) of Ferns presented by  
Dr. Matterson. Also Sori of the following New Zealand Ferns:—

Polypodium attenuatum	Pteris falcata
Nephrodium decompositum	Pteris Macilenta

## SERIAL WORKS SUBSCRIBED FOR.

Birds of Asia, by John Gould, F.R.S.  
 Natural History of the Tineina, by H. T. Stanton, F.R.S.  
 Nautical Almanack.  
 Proceedings of the Zoological Society.  
 Publications of the Palæontographical Society.  
 Publications of the Ray Society.  
 Sowerby's Thesaurus Conchyliorum.  
 London, Edinburgh, and Dublin Philosophical Magazines.  
 Annals and Magazine of Natural History.  
 Geological Magazine.  
 Journal of the British Archæological Association.  
 Numismatic Chronicle.  
 Memoirs de la Société Paléontologique Suisse.  
 D'Orbigny's Paléontologie Française.  
 Geological Record.  
 Nature.  
 Surtees Society, the Publications of.  
 Hardwicke's "Science Gossip."

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COMMUNICATION  
TO THE  
MONTHLY MEETING  
OF THE  
YORKSHIRE PHILOSOPHICAL SOCIETY,  
1884.

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On the occurrence of *Waldheimia Bernardina* in the Oxford Clay of Cambridgeshire, by JOHN FRANCIS WALKER, M.A., F.G.S.

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Some years ago, my friend C. E. Leeds, M.A., gave me a specimen of a *Waldheimia* from the Oxford Clay of Thorney, North Cambridgeshire. It had the usual black glossy appearance of the brachiopoda found in the Oxford Clay of Huntingdonshire, but it differed from the typical *W. impressa* found at St. Ives, in being a larger flatter shell, of a more elongated form, having its greatest width near the middle of the shell, tapering towards the beak, which is longer and less incurved than that of *Waldheimia impressa*. Fine specimens of this species are preserved in the Museum of the Yorkshire Philosophical Society, having formed part of the Wood collection which was purchased and presented to the Society by W. Reed, F.G.S.

*Terebratulula (Waldheimia) impressa* was first figured by Zieten (*Versteinerungen Württembergs*, tab. 39, fig. 11) in 1832. It was obtained from the bluish marl between the Jurakalk at the Unter-oolith from Stuifenburg; this bed was afterwards called the *Impressa-thon*. Therefore we must consider the German specimens as the typical form, these shells are circular, and have the beak well incurved.

Oppel in his work "Die Juraformation" separated the Inferior Oolite specimens which had been referred to *T. impressa* and gave them the name of *T. Meriana*, they are thicker shells generally widest in the middle, and taper towards the front margin, often giving the shell a somewhat rhomboidal form, whilst *W. impressa* is circular, the beak in *W. Meriana* is also much incurved. Both *T. impressa* and *T. Meriana* have long loops and are therefore Waldheimias. I may here state that several varieties of *W. Meriana* occur in the Inferior Oolite of Dorsetshire, which may require varietal names, especially a small form which abounds near Sherborne. The true *W. impressa* occurs in France at Boulogne-sur-mer in the zone of *A. Lamberti*, as stated by Dr. Davidson in his valuable monograph on British Brachiopoda. It occurs in the same zone at St. Ives, Huntingdonshire. *Terebratula (Waldheimia) Bernardina* is described by D'Orbigny in his Prodrome, 1847, as follows:—"Espèce voisine *T. pala*, mais ovale-obronde, tronquée sur la région palléale, élargie au milieu; la petite valve très déprimée, avec un sillon au milieu (elle est quelquefois presque ronde.)" Numerous specimens referred to this species are found in the Oxford Clay of Dives and Villers, in Calvados France. As stated by Mr. Davidson, D'Orbigny omits *T. impressa* in his list of Oxfordien species, but gives it as a Bajocien species, this is the *T. Meriana* Oppel. But Oppel in his list of fossils found in the Oxford Clay ("Die Juraformation," page 608) gives both *Terebratula (Waldheimia) impressa* and *Terebratula (Waldheimia) Bernardina*, he states that the latter resembles an elongated *T. impressa*. The question remains whether D'Orbigny included the true Oxfordien species, *T. (W.) impressa*, under his *T. Bernardina*; if so, we must refer the species to Oppel, thus *T. Bernardina* Oppel = *T. Bernardina* D'Orb, pars. The specimens which I have referred to *W. Bernardina* occur in England in a lower zone of the Oxford clay, being associated with *A. Duncani*, *A. Athleta*, &c. Whether *W. Bernardina* should be regarded as a distinct species or only as a variety of *W. impressa* I will not attempt to decide, further than I would remark that *W. impressa* bears the same relation to *W. Bernardina* as the Inferior Oolite Species *W. Meriana* does to

*W. carinata*. It is easy to connect together all the Cretaceous and Jurassic species of carinated Waldheimias, but well marked forms distinguish different horizons. A new genus *Aulacothyris* has recently been formed by Douville to include the carinated Waldheimias. If the range of a species be increased and new genera be rapidly formed, we shall find that only names are altered, the term species will disappear, and the only division will be genera and varieties.

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M E M B E R S  
OF THE  
YORKSHIRE PHILOSOPHICAL SOCIETY,  
RESIDING IN  
YORK AND ITS NEIGHBOURHOOD,\*

FEBRUARY, 1885.

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 †Richardson, W. Benson, *Elm Bank, The Mount*.  
 †Richardson, Captain, *Bootham*.  
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 Robinson, William, *Blake-street*.  
 Rodwell, Thomas, *St. Sampson's Square*.

- Rooke, Edward, *The Mount*.  
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Skelton, Robert, *St. Sampson's-square*.  
Slinger, William, 44, *Monkgate*.  
Smith, Mrs., 22, *St. Mary's*.  
Smith, The Rev. Thomas, M.A., 34, *Bootham*.  
Smith, Thomas, 43, *Marygate*.  
Smith, Joseph, *St. Peter's-grove, Clifton*.  
Sotheran, J., *Coney-street*.  
Sowden, Thomas Henry, *Grove Park Avenue, Clifton*.  
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Spence, Alfred Henry, *Lendal*.  
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Thompson, William, *Clifton*.  
Thompson, Lawrence J., *Coney-street*.  
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Thorp, Henry Bell, *Clifton*.  
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Todd, Joseph, 76, *Petergate*.  
Todd, Mrs., *Foss Bridge*.  
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Walker, Thomas, *Highthorn*.  
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Walker, William Thomlinson, *Clifton-grove*.  
Walker, Col., D.C., R.E., *The Crescent*.  
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Weatherley, Robert, *De Grey-street*.  
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Newton, Rev. Horace, *Driffild*.

Norcliffe, F. B., *Langton Hall, Malton*.

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Pumphrey, William, *The Cottage, Lyncombe, Bath*.



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Moore, Miss, *Clifton*.

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